Explanation

These generalized east-west cross-sections depict the subsurface geology of eastern North Dakota. Each cross-section has been vertically exaggerated 21 times (the vertical scale has been stretched 21 times greater than the horizontal) in order to reasonably depict the architecture of the geologic strata in the subsurface. Geographic information was derived from Red River Valley Drilling Project wells (Fig. 1) anddded from Moore (1978). The stratigraphic tops for North Dakota State Water Commission wells (NDSWC wells on cross-section C-C’) remained consistent with Anderson (2012). Cretaceous undifferentiated and Jurassic undifferentiated (Swift Formation) tops were reviewed and sometimes modified slightly from the formation tops database of Moore (2015). The remaining geologic formation tops for the Cretaceous undifferentiated, Inyan Kara Formation, and Jurassic undifferentiated were compiled from the North Dakota Oil and Gas Division database (NDOGD, 2015), examined through building stratigraphic cross-sections with available wireline logs across eastern North Dakota, and compared with example formation logs found within Bluemle et al. (1986). The lateral extent of each geologic unit was compared with various maps from previous North Dakota Geological Survey publications, including: Ordovician Undifferentiated (Winnipeg Formation extent – Anderson, 1974), Silurian Undifferentiated (Interlake Formation extent – Carlson and Eastwood, 1962), Mississippian-Devonian Undifferentiated (Bottineau Interval and Dawson Bay Formation extents – Anderson, 1974), and Cretaceous undifferentiated, Inyan Kara Formation, and Jurassic undifferentiated (Bluemle, 1983). The well information posted above each cross-section was extracted from NDOGD (2015) and Moore (1978). Cross-section C-C’ was modified from Anderson (2012).

References:

NDOGD, 2015, North Dakota Oil & Gas Division Online Subscription Service Well Information Database, http://www.dmr.nd.gov/oilgas/